paſs through to thoſe of the other, their repellency can, and by this means they act on one another. The particles of the electrical fluid have a mutual repellency, but by the power of attraction in the glaſs they are condenſed or forced nearer to each other. When the glaſs has received and, by its attraction, forced cloſer together ſo much of this electri~~fied~~cal fluid, as that the power of attracting and condenſing in the one, is equal to the power of expanſion in the other, it can imbibe no more, and that remains its conſtant whole quantity; but each ſurface would receive more, if the repellency of what is in the oppoſite ſurface did not reſiſt its entrance. The quantities of this fluid in each ſurface being equal, their repelling action on each other is equal; and therefore thoſe of one ſurface cannot drive out thoſe of the other: but, if a greater quantity is forced into one ſurface than the glaſs would naturally draw in; this increaſes the repelling power on that ſide, and overpowering the attraction on the other, drives out part of the fluid that had been imbibed by that ſurface, if there be any non-electric ready to receive it: ſuch there is in all caſes where glaſs is electrified to give a ſhock. The ſurface that has been thus emptied by having its electrical fluid driven out, reſumes again an equal quantity with violence, as ſoon as the glaſs has an opportunity to diſcharge that over-quantity more than it could retain by attraction in its other ſurface, by the additional repellency of which the vacuum had been occaſioned. For experiments favouring (if I may not ſay confirming) this hypotheſis, I muſt, to avoid repetition, beg leave to refer you back to what is ſaid of the electrical phial in my former papers.

34. Let us now ſee how it will account for ſeveral other appearances.—Glaſs, a body extremely elaſtic (and perhaps its elaſticity may be owing in ſome degree to the ſubſiſting of ſo great a quantity of this repelling fluid in its pores) muſt, when rubbed, have its rubbed ſurface ſomewhat ſtretched, or its ſolid parts drawn a little farther aſunder, ſo that the vacancies in which the electrical fluid reſides, become larger, affording room for more of that fluid, which is immediately attracted into it from the cuſhion or hand rubbing, they being ſupply'd from the common ſtock. But the inſtant the parts of the glaſs ſo open'd and fill'd have paſs'd the friction, they cloſe again, and force the additional quantity out upon the ſurface, where it muſt reſt till that part comes round to the cuſhion again, unleſs ſome non electric (as the prime conductor) firſt preſents to receive it.* But if the inſide of the globe be lined with a non-electric, the ad-

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[*] In the dark the electrical fluid may be ſeen on the cuſhion in two ſemi-circles or half-moons, one on the fore part, the other on the back part of the cuſhion, juſt where the globe and cuſhion ſeparate. In the fore creſcent the fire is paſſing out of the cuſhion into the glaſs; in the other it is leaving the glaſs, and returning into the back part of the cuſhion. When the prime conductor is apply'd to take it off the glaſs, the back creſcent diſappears.

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